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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

09/523,990

**Applicant(s)**

LIN ET AL.

**Examiner**

DANIEL WALSH

**Art Unit**

2887

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 44, 48, 49 and 60-68 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 44, 48, 49 and 60-68 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/C)
- Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 44, 48, 49, and 60-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hikita et al. (US 6,476,499) in view of Shimizu (JP405123237A).

Hikita et al. teaches (FIG. 5, 16A+) a circuit component comprising a substrate, a semiconductor chip over a top surface of the substrate wherein the chip has a front surface facing the top surface of the substrate and a back surface opposite to the front surface and wherein said chip comprises multiple pads at the front surface; an identity of product directly on said back surface of the chip; multiple metal bumps between said multiple pads of said chip and said top surface of said substrate as bumps are used to bond the chips (1,2) to each other via electrodes

(13,23) because it would have been obvious to use metal bumps/solder for conductivity, as is conventional in the art, such as for use between 13,23 of a first chip and a second chip/substrate. The barcode is indicative of the model and production lot number, and therefore is interpreted as identity of the product information. Hikita et al. teaches the barcodes and information notations may be achieved by a printing process (col 17, lines 41+).

Hikita et al. is silent to an optically transparent layer directly over said identity of product wherein said identity of product is visible through said optically transparent layer.

Shimizu teaches printing a barcode and then either printing or superposing a transparent resin member on the barcode for wear resistance, scratch resistance, or water resistance. It is understood that the barcode is readable, as it provides identification information. Further, the mere claiming that the barcode is visible does not appear to effect the structure of the device, as the Examiner believes that information such as chip markings are capable of being read, as in indicia. Further, as the coating is recited as a resin, it is understood to be resistant to damaging, and therefore would provide the expected result of protecting removal of the barcode/information, or altering of the information, thus providing information security. The mold package of Hikita et al. can cover the barcode but once removed it does not provide the expected results of information security, as a resin coating on the information/barcode would.

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the teachings of Hikita et al. with those of Shimizu.

One would have been motivated to do this in order to protect/cover the information while still permitting it to be visible.

Re claim 48, Hikita et al. teaches a mold package (col 17, lines 55+). Though silent to an underfill between the front surface and a top surface of said substrate that encloses the metal bumps, the Examiner notes that is it well known and conventional in the art to underfill/encapsulate such packages (underfill material enclosing bumps and parts of the circuit/package) in order to seal/enclose/protect/strengthen elements of the device.

Re claim 49, though silent to balls on a bottom surface of said substrate, the Examiner notes that balls on a surface are an obvious expedient, well within the ordinary skill in the art, to effect connection between elements (pads/points of contact). The Examiner notes that balls/bumps are conventional to attach substrate together, as in flip chip/stacked chip arrangements, and therefore an obvious expedient to effect connection.

Re claims 61-68, the limitations have been discussed above. The Examiner notes that the barcode is taught as providing informational notations such as production lot number, model number, etc. Though silent to the identity of the manufacturer, the Examiner notes that the type of information contained in the printed matter is an obvious matter of design variation and is not functionally related to the substrate that it is on, and as such, is not patentable (see in re Gulack/Ngai). Merely specifying a type of information to be included is a matter of design variation, as merely conveying relevant desired information. Further, as such information claimed are just types of information notations as claimed, one would have been obvious to include such different notations to provide information to the user, for example; such relevant product information including information generally related to products such as product information, name, manufacturer, model number, etc., as known in the art.

2. Claims 48, 49, 60-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hikita et al./Shimizu, as discussed above, in view of Flip Chip, as discussed in the previous Office Action.

The teachings of Hikita et al./Shimizu have been discussed above.

Hikita et al. /Shimizu are silent to the underfill, balls on the bottom of the substrate, and solder bumps.

Flip Chip teaches such limitations (see lone drawing).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the teachings of Hikita et al. /Shimizu with those of Flip Chip.

One would have been motivated to do this in order to use known techniques to produce predictable results, such as underfill/protection/covering of elements and connectivity (conductivity) between elements, as bumps/balls of metal/solder are known in the art to effect connectivity between elements, and underfills are known to provide protection/covering.

Re claims 61-68, the limitations have been discussed above. The Examiner notes that the barcode is taught as providing informational notations such as production lot number, model number, etc. Though silent to the identity of the manufacturer, the Examiner notes that the type of information contained in the printed matter is an obvious matter of design variation and is not functionally related to the substrate that it is on, and accordingly is not patentable (see in re Gulack/Ngai). Merely specifying an additional type of printed information to be included for information purposes is a matter of design variation, to convey relevant/additional/desired information. Further, the Examiner notes that it is conventional in the art to provide additional information related to products such as to provide the product information as known in the art.

It is understood that the barcode is visible/readable through the coating to permit use.

3. Claims 44, 48, 49, 60, 62-64, and 66-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hyozo et al. (US 5,894,172) in view of Shimizu, as discussed above, and Flip Chip, as discussed above.

Hyozo et al. teaches a chip with a front and back surface where the front surface is a bottom and the back surface is a top, and identity information (of product) directly on said back surface of the chip (FIG. 8). The Examiner notes that the type of information selected is a matter of design variation, not functionally related to the substrate and therefore is not patentable. The information 8 is interpreted as machine readable, motivated for increased efficiency and accuracy (machine reading). FIG. 32 teaches a printed barcode, seen as an obvious expedient for machine readable information.

Hyozo et al. is silent to the chip being a flip-chip/the structure of pads, bumps, solder, substrate, and underfill as claimed.

Flip Chip teaches such limitations, as discussed above.

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the teachings of Hyozo et al. with those of Flip Chip.

One would have been motivated to do this to provide identification information on the chip (directly on the chip) that can be printed on the surface of the chip in various location, since no electronics circuit devices are connected on that surface of the chip. Applying such identification information to a flip-chip structure would enable known techniques to be provided on similar devices in a same way to produce predictable results, namely direct application of identification information.

Hyozo et al./Flip Chip are silent to a transparent encapsulant/coating the printed barcode.

Shimizu teaches such limitations (as discussed above) where a barcode is printed and a resin protective coating is applied thereon for protection.

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the teachings of Hyozo et al./Flip Chip with those of Shimizu in order to apply the teachings of transparent protective coatings over identification information.

One would have been motivated to do this to protect the information while still permitting it to be read (transparent). As discussed above, including additional product related information (printed matter) is an obvious matter of design variation to provide additional product related information.

4. Claims 44, 48, 49, and 60-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hikita et al. (US 6,476,499) in view of Hiromasa (JP362169448A), as cited in a previous Office Action.

Hikita et al. teaches (FIG. 5, 16A+) a circuit component comprising a substrate, a semiconductor chip over a top surface of the substrate wherein the chip has a front surface facing the top surface of the substrate and a back surface opposite to the front surface and wherein said chip comprises multiple pads at the front surface; an identity of product directly on said back surface of the chip; multiple metal bumps between said multiple pads of said chip and said top surface of said substrate as bumps are used to bond the chips (1,2) to each other via electrodes (13,23) because it would have been obvious to use metal bumps/solder for conductivity, as is conventional in the art, such as for use between 13,23 of a first chip and a second chip/substrate.



Hikita et al. is silent to an optically transparent layer directly over said identity of product wherein said identity of product is visible through said optically transparent layer.

Hiromasa teaches a transparent resin through which identification information can be read (FIG. 1), broadly interpreted as an identity of a product. Though silent to a barcode being visible, it would have been obvious to one of ordinary skill in the art to use a barcode to provide machine readable indicia for reliability/accuracy. There mere claiming that the barcode is visible does not appear to effect the structure of the device, as the Examiner believes that information such as chip markings are capable of being read, as in indicia.

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the teachings of Hikita et al. with those of Hiromasa in order to apply the teachings of transparent protective coatings over identification information

One would have been motivated to do this in order to protect/cover the information while still permitting it to be visible. Though silent, the Examiner notes that it is well known in the art that resin and similar protective coatings can be applied/superposed on printed barcodes, such as those of Hikita et al. Though Hikita et al. teaches reviewing the information/barcode on the chip by removing of a mold package, removal of the mold package exposes the barcode/information. Therefore it would have been obvious to have a protective coating to protect the barcode/information from damage, and also to protect the information from being altered/damaged/tampered with through the use of a resin protective coating.

Re claim 48, Hikita et al. teaches a mold package (col 17, lines 55+). Though silent to an underfill between the front surface and a top surface of said substrate that encloses the metal bumps, the Examiner notes that is it well known and conventional in the art to

underfill/encapsulate such packages (underfill material enclosing bumps and parts of the circuit/package) in order to seal/enclose/protect/strengthen elements of the device.

Re claim 49, though silent to balls on a bottom surface of said substrate, the Examiner notes that balls on a surface are an obvious expedient, well within the ordinary skill in the art, to effect connection between elements (pads/points of contact). The Examiner notes that balls/bumps are conventional to attach substrate together, as in flip chip/stacked chip arrangements, and therefore an obvious expedient to effect connection.

Re claims 61-68, the limitations have been discussed above. The Examiner notes that the barcode is taught as providing informational notations such as production lot number, model number, etc. Though silent to the identity of the manufacturer, the Examiner notes that the type of information contained in the printed matter is an obvious matter of design variation and is not functionally related to the substrate that it is on, and as such, is not patentable (see in re Gulack/Ngai). Merely specifying a type of information to be included is a matter of design variation, as merely conveying relevant desired information. Further, as such information claimed are just types of information notations as claimed, one would have been obvious to include such different notations to provide information to the user, for example; such relevant product information including information generally related to products such as product information, name, manufacturer, model number, etc., as known in the art. The obviousness of printed matter for identification purposes has been discussed above.

5. Claims 48, 49, 60-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hikita et al./Hiromasa, as discussed above, in view of Flip Chip, as discussed in the previous Office Action.

The teachings of Hikita et al./Hiromasa have been discussed above.

Hikita et al. /Hiromasa are silent to the underfill, balls on the bottom of the substrate, and solder bumps.

Flip Chip teaches such limitations (see lone drawing).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the teachings of Hikita et al. /Hiromasa with those of Flip Chip.

One would have been motivated to do this in order to use known techniques to produce predictable results, such as underfill/protection/covering of elements and connectivity (conductivity) between elements, as bumps/balls of metal/solder are known in the art to effect connectivity between elements, and underfills are known to provide protection/covering.

Re claims 61-68, the limitations have been discussed above. The Examiner notes that the barcode is taught as providing informational notations such as production lot number, model number, etc. Though silent to the identity of the manufacturer, the Examiner notes that the type of information contained in the printed matter is an obvious matter of design variation and is not functionally related to the substrate that it is on, and as such, is not patentable (see in re Gulack/Ngai). Merely specifying a type of information to be included is a matter of design variation, as merely conveying relevant desired information (additional). Further, as such information claimed are just types of information notations as claimed, one would have been obvious to include such different notations to provide additional information to the user, for example; such relevant product information including information generally related to products such as product information, name, manufacturer, model number, etc., as known in the art. It is

understood that the barcode is visible/readable through the coating to permit use, and the obviousness of different printed matter for informational purposes has been discussed above.

6. Claims 44, 48, 49, 60, 62-64, and 66-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hyozo et al. (US 5,894,172) in view of Hiromasa, as discussed above, and Flip Chip, as discussed above.

Hyozo et al. teaches a chip with a front and back surface where the front surface is a bottom and the back surface is a top, and identity information (of product) directly on said back surface of the chip (FIG. 8). The Examiner notes that the type of information selected is a matter of design variation, not functionally related to the substrate and therefore is not patentable. The information 8 is interpreted as machine readable, motivated for increased efficiency and accuracy (machine reading).

Hyozo et al. is silent to the chip being a flip-chip/the structure of pads, bumps, solder, substrate, and underfill as claimed.

Flip Chip teaches such limitations, as discussed above.

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the teachings of Hyozo et al. with those of Flip Chip.

One would have been motivated to do this to provide identification information on the chip (directly on the chip) that can be printed on the surface of the chip in various location, since no electronics circuit devices are connected on that surface of the chip. Applying such identification information to a flip-chip structure would enable known techniques to be provided on similar devices in a same way to produce predictable results, namely direct application of identification information.

Hyozo et al./Flip Chip are silent to a transparent encapsulant/coating.

Hiromasa teaches such limitations (as discussed above).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the teachings of Hyozo et al./Flip Chip with those of Hiromasa in order to apply the teachings of transparent protective coatings over identification information.

One would have been motivated to do this to protect the information while still permitting it to be read (transparent).

Re claims 62-64 and 66-68, the limitations have been discussed above. The Examiner notes that the barcode is taught as providing informational notations such as production lot number, model number, etc. Though silent to the identity of the manufacturer, the Examiner notes that the type of information contained in the printed matter is an obvious matter of design variation and is not functionally related to the substrate that it is on, and as such, is not patentable (see in re Gulack/Ngai). Merely specifying a type of information to be included is a matter of design variation, as merely conveying relevant desired information (additional). Further, as such information claimed are just types of information notations as claimed, one would have been obvious to include such different notations to provide information to the user (additional), for example; such relevant product information including information generally related to products such as product information, name, manufacturer, model number, etc., as known in the art.

Though silent to a barcode being visible, it would have been obvious to one of ordinary skill in the art to use a barcode to provide machine readable indicia for reliability/accuracy. There mere claiming that the barcode is visible does not appear to effect the structure of the

device, as the Examiner believes that information such as chip markings are capable of being read, as in indicia.

7. Claims 65-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hikita et al./ Hiromasa, as discussed above, in view of Shimizu (JP405123237).

The teachings of Hikita et al./Hiromasa have been discussed above.

Hikita et al./Hiromasa is silent to a barcode visible through resin.

Shimizu teaches such limitations (CONSTITUTION).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the teachings of Hikita et al./Hiromasa with those of Shimizu.

One would have been motivated to do this to protect the barcode while still being readable/visible.

8. Claims 65-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hikita et al./ Hiromasa/Flip Chip, as discussed above, in view of Shimizu (JP405123237).

The teachings of Hikita et al./Hiromasa have been discussed above.

Hikita et al./Hiromasa/Flip Chip is silent to a barcode visible through resin.

Shimizu teaches such limitations (CONSTITUTION).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the teachings of Hikita et al./Hiromasa/Flip Chip with those of Shimizu.

One would have been motivated to do this to protect the barcode while still being readable/visible.

9. Claims 65-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hyozo et al./ Hiromasa/Flip Chip, as discussed above, in view of Shimizu (JP405123237).

The teachings of Hyozo et al./Hiromasa/Flip Chip has been discussed above.

Hyozo et al./Hiromasa/Flip Chip is silent to a barcode visible through resin.

Shimizu teaches such limitations (CONSTITUTION).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the teachings of Hyozo et al./Hiromasa/Flip Chip with those of Shimizu.

One would have been motivated to do this to protect the barcode while still being readable/visible.

#### ***Response to Arguments***

10. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

I response to the Applicants argument that Hikita et al. fails to teach an identity (printed barcode of Hikita et al.) visible through an optically transparent layer, the Examiner notes that Shimizu teaches that a printed barcode can have a transparent resin protective layer superposed or printed thereon for protection. As Hikita et al. teaches the use of printed barcodes, the Examiner notes that it would have been obvious to one of ordinary skill in the art to combine the teaching of Hikita et al. with those of Shimizu in order to have the expected results of protecting the printed barcode. Further, even in the presence of a mold package, once the mold package is removed, the printed barcode/information is not protected against wear, alteration, damaging, etc. The resin coating of Shimizu therefore provides information security not provided by the mold package, because once the mold package is removed, the resin coating protects the information from wear and information removal/alteration. Further, Hikita et al. teaches (col 18,

lines 42-44) that the information can be easily checked, suggesting that reading the information can be done without difficulty. Therefore, independent/prior to being placed in a mold/package, it would have been obvious to protect the information since it is being checked and therefore could be subject to wear/alteration.

Further, with respect to Hiromasa, the Examiner maintains a similar argument. Hiromasa is relied upon for the generic teaching of a resin protective coating over printed/formed information. The resin coating now only protects against damage/weather, but it also protects the information from being altered/removed. Therefore, as discussed above, when the mold package of Hikita et al. exposes the barcode/information, it would have been obvious for the information/barcode to have a resin/clear protective coating to not only protect the barcode/information from damage/the elements, but to also protect the information from being altered/removed. The Examiner is not suggesting taking the whole package of Hiromasa and applying it in a combination rejection, but relies upon Hiromasa for a protecting coating (resin) over information to protect the information against removal/damage.

In response to the Applicants arguments that Hiromasa's package material 2 is not suggested to be transparent, the Examiner notes that Hiromasa teaches a transparent resin for on markings printed on the package (as agreed upon by the applicant). Further, the Examiner agrees that Hiromasa does not explicitly teach that the package material 2 is the same material as the transparent resin. However, as stated above, the Examiner is not relying upon the package material 2 as covering the information/barcode. Hikita et al. teaches that there is a printed barcode/information formed directly on a chip. Hiromasa teaches the use of a transparent resin to cover printed information. Therefore, the Examiner maintains that it would have been obvious



to use a protective coating (4) of Hiromasa, to cover the printed information of Hikita et al. for information protection. The Examiner notes that applying protective coatings/resins to printed barcodes/information is believed to be within the ordinary skill in the art for expected results, and that applying a similar coating, such as a transparent resin taught by Hiromasa, to the printed information of Hikita et al., would not require the application of Hiromasa's package material. Namely, it would not be required to incorporate the package material 2 of Hiromasa to the teachings of Hikita et al., as the Examiner is relying upon transparent resin 4 of Hiromasa which covers printed information for security, and is applying that to the printed information of Hikita et al. The Examiner believes that the teaching of a transparent protective layer does not need to be applied together with the package material, namely that a transparent protective layer/resin can be generally applied to printed material/information for expected results, and does not require a package material to be included.

In response to the Applicants argument that Hikita et al.'s identity of product and barcode is not taught as being visible after being encapsulated by a mold package, the Examiner respectfully disagrees. As noted by the applicant, Hikita et al. teaches verifying/checking the identity by removing of the mold package. However, the mere fact that the mold package be removed to verify/check chip information (even after the chip package is delivered to market) does not prohibit one from desiring to protect the information thereon. Specifically, if the chip information is desired to be checked even after the package is delivered to the market, the removal of the mold package exposes the information which could then be subject to damage/alteration/removal. Therefore, it would have been obvious to apply a transparent protective material to protect the information as discussed above from damage/alteration..

Though silent to the details of the mold package, the Examiner notes that merely reciting a mold package does not prevent one from maintaining the integrity of printed information on elements inside the mold. Semiconductor mold packages/housings/packages can contain more than one element inside and therefore when accessed inside the package/mold it would be desirable to protect such information printed on the elements, using conventional means that produce expected results. The Examiner notes that the transparent resin 4 of Hiromasa, while taught as being applied to printed markings on a package material 2, is generally believed to be applicable to other surfaces, and would be well within the ordinary skill in the art to apply to the teachings of Hikita et al.'s printed information, to provide expected results.

In response to the Applicants argument that Hyozo et al. teaches a laminate 22 with name printed on the laminate, and that the laminate covers the chip, the Examiner agrees. FIG. 31 shows the cross section where information is printed on the laminate and not the chip. However, the Examiner is not relying upon that eleventh embodiment of Hyozo et al., and instead relies upon that taught in FIG. 8 which has the information printed directly onto the chip, and not the laminate. In response to the Applicants argument regarding the combination of Hyozo et al. with Hiromasa, the Examiner notes that Hiromasa is relied upon for the general teaching of a transparent resin/coating over printed information, and therefore, the transparent resin/coating applied directly over printed information is believed to be applicable to the printed information of Hyozo et al. for the same expected results of security. Further, protective coatings are generally known and accepted in the art to be applied over printed material and are not believed to require the package material 2 of Hiromasa.

In response to the Applicants argument that Hikita et al. teaches easily checking the information on the device and that a mold package need be removed, the Examiner notes that in either instance, as the information is exposed to be read/checked, it would have been obvious to coat it for protection against damage/alteration.

#### ***Additional Remarks***

In order to attempt to expedite prosecution, the Examiner notes that the prior art primary references relied upon teach printed information formed directly on a chip/substrate, but do not explicitly teach to a transparent protective coating thereon. The Examiner notes that protective coatings/resins are known in the art to be applied to printed information for security and to reduce wear/damage. References such as Shimizu and Hiromasa reinforce the general concept of resins/transparent coatings being applied to printed information for such purposes. The Examiner notes that the protective coatings themselves are believed to be applicable to printed material, for expected results. As an example, as Hikita et al. teaches a printed barcode/information on a chip surface, but not a transparent coating on the printed information, the Examiner believes that the transparent coatings of Shimizu or Hiromasa, which are generally disclosed as upon printed information, can be applied to the printed information of Hikita et al. for expected results, without requiring the packaging or other elements that maybe disclosed in the Shimizu or Hiromasa references. The general transparent resin/protective coatings are not believed to require other structural elements in order for the coating to be applied to a printed area to function.

However, it appears the Applicant is interpreting the Examiners rejection (combination of references) would result in a structure that includes all structural elements of a first reference combined with all structural elements disclosed in the second reference. However, the Examiner notes that he is not relying upon every structural reference in a secondary reference, but the secondary reference is relied upon for teachings that are absent in the primary reference and is believed to be generally applicable to printed matter itself (transparent resin/protective coatings). As mentioned, such coatings applied to printed matter are known in the art, and the Examiner is relying upon the secondary references for teachings of this type of coating, which is believed itself to be applicable to the printed matter of the primary references, without requiring all the structural details of the secondary reference which are not being relied upon. Therefore, it is unclear to the Examiner why using Hiromasa as a secondary reference would require the package material 2, for example. The Examiner notes that the secondary reference is relied upon for teachings not disclosed by the primary reference, and that these teachings (protective coating applied over a printed material/barcode) are believed to be able to be applied to a primary reference disclosing printed matter, without requiring additional structure such as package material 2, in the case of Hiromasa. The Examiner maintains that the cited combination of references teach the claimed limitations.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL WALSH whose telephone number is (571)272-2409. The examiner can normally be reached on M-F 9am-7pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Paik can be reached on 571-272-2404. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DANIEL WALSH/  
Primary Examiner, Art Unit 2887